

# **APPENDIX I**

## **TRANSFER/PROCESSING REPORT**

# **TRANSFER/PROCESSING REPORT**

**for the**

## **Sunnyvale Materials Recovery and Transfer SMaRT Station®**

**November 2002**

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**Prepared by**

**City of Sunnyvale Department of Public Works**

**Marvin A. Rose, Director**

**Mark A. Bowers, Solid Waste Program Manager**

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## **I. FACILITY OVERVIEW**

### **A. Introduction**

The Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®) is a large volume municipal solid waste sorting and transfer station serving the cities of Mountain View, Palo Alto, and Sunnyvale. SMaRT Station operations include:

- Recovery of recyclable materials from the mixed municipal solid waste delivered by franchised collectors and self-haul customers,
- Processing of source-separated recyclable materials from collection programs in the Cities of Mountain View and Sunnyvale,
- Processing of yard trimmings and wood waste for use as compost feedstock and fuel for biomass cogeneration,
- Drop-off recycling center for public use, and buy-back of California Redemption Value containers,
- Transfer of non-recyclable residue to a regional landfill

The SMaRT Station is owned by the City of Sunnyvale and operated under contract by GreenTeam/Zanker of Sunnyvale (the Operator). The facility is located on City of Sunnyvale property adjacent to the Sunnyvale Landfill, which underwent closure in 1993. The SMaRT Station was designed to divert from disposal a minimum of 15% materials received. Current actual annual recovery rates achieved are approximately 29%. Processed materials are shipped to export and domestic markets. The materials recovered and processed in the station include aluminum, cardboard, ferrous and non-ferrous metals, concrete, high grade paper, mixed waste paper, newsprint, glass, wood, yard waste, plastic, and white goods (large appliances). The green waste and wood waste are chipped, sized and used as feedstock for compost, and fuel for biomass cogeneration.

### **B. Site Location**

The SMaRT Station was constructed on City property located within the City of Sunnyvale, adjacent to the Sunnyvale Landfill, the Sunnyvale Water Pollution Control Plant (WPCP), and San Francisco Bay as shown in Figure A-1 (See Appendix A). Nearby land uses include office and industrial park complexes, wastewater processing, asphalt and concrete recycling, biosolids management, recreation (on the closed Sunnyvale Landfill) and salt production.

The SMaRT Station occupies nine acres in an area formerly used for asphalt and concrete recycling, and prior to that, for wastewater sludge storage. The concrete recycling operation was moved to the top of the East Hill of the Sunnyvale Landfill in order to accommodate the SMaRT Station. Tipping, sorting, and processing operations are enclosed in a large steel-frame structure enclosing the 113,000



square foot concrete floor, with an attached 6,000 square foot office and employee facility. Truck staging and tarping, processed wood and green waste storage, recyclable metals storage, and household recyclables drop-off are managed outdoors adjacent to the SMaRT Station structure. The SMaRT Station building itself is 45 feet tall at its highest point.

The 1992 Environmental Impact Report found that the operation of the SMaRT Station is compatible with adjacent land uses, which include a landfill and wastewater treatment facility. The City of Sunnyvale Planning Commission on August 10, 1992 issued a special development permit for this facility.

The City of Sunnyvale General Plan includes a Solid Waste Sub-Element adopted by the Sunnyvale City Council on June 4, 1996. The sub-element establishes a policy framework for the future development of the solid waste management system in Sunnyvale. This document describes the SMaRT Station as the "focal point for the transfer and processing of solid waste and recyclable materials collected in Sunnyvale". In addition to policies regarding protection of public health and safety, and waste reduction, this document also contains policies to encourage residents to maintain clean neighborhoods. To carry out this policy, Action Statement 3.2C.1b provides for periodic free disposal of refuse at the SMaRT Station by Sunnyvale residents. These free disposal events that have taken place at the SMaRT Station since 1993 (and at the Sunnyvale Landfill for decades prior) are known as Extra Dump Weekends.

The SMaRT Station is accessible to traffic via Borregas Avenue from Caribbean Drive. Caribbean Drive connects with Mathilda Avenue, Highway 237, and Lawrence Expressway, all of which in turn connect with Highway 101. Both Highways 237 and US 101 have interchanges with Mathilda Avenue and Lawrence Expressway within approximately two miles of the project site. Residual waste from the SMaRT Station is hauled to the Kirby Canyon Landfill, which is located east of the Golf Links Road interchange with US 101 in southern San Jose. The haul route for transfer trucks between the SMaRT Station and the landfill is U.S. 101 to the Golf Links Road exit. The legal description of the SMaRT Station site is located in Appendix G of this report.

### **C. General Site Plan**

The SMaRT Station includes one main building for waste processing and materials recovery, an entrance facility, a perimeter roadway, and two parking areas, as shown in Figure A-4. The total floor space for the facility is approximately 119,200 square feet (sf), divided into the functional areas as follows:

Waste processing and materials recovery area	91,875 sf
Wood waste and yard trimmings processing area	9,375 sf
Curbside recycling area	5,000 sf
Residue load-out area	4,950 sf
Facility offices	6,000 sf
Vehicle maintenance area	2,000 sf

The following description of facilities corresponds with Figure A-4. Commercial and other large vehicles entering the SMaRT Station are weighed at the two in-bound scales located on Carl Road, and then directed to the proper tipping area. Residential and other public vehicles are inspected and measured by the scale attendant to determine a volume-based fee.

An office and visitor facility, used jointly by the City and the operations contractor, is located at the west end of the structure. Employee and visitor parking are provided south of the SMaRT Station offices. The California Certified Recycling Center is located outside the southwest end of the SMaRT Station.

The primary tipping areas for residential and commercial vehicles are located in the center portion of the SMaRT Station, on both the south and north sides of the structure. The source-separated recyclables processing area is located in the southwestern section of the SMaRT Station. The source-separated recyclables processing system includes mechanical and hand sorting, as well as a horizontal baler. A 30-foot scale allows trucks to be weighed after unloading each compartmentalized section of their loads.

An enclosed hazardous waste storage unit is located in the southeast corner of the facility, and is used to store household hazardous waste recovered from municipal solid waste. Bins used to store recyclable metals are positioned just north of the hazardous waste storage unit.

Transfer trailers are loaded with residual waste at a loading area located at the east end of the structure. A mechanical compactor and two overhead conveyors are available to load trucks. The equipment maintenance shop is located at the northeast corner of the structure. The wood and yard trimmings processing area is located at the northwest end of the structure, as is the recovered materials storage and loading area.

#### **D. Service Area**

The SMaRT Station currently accepts material from the cities of Mountain View, Palo Alto, and Sunnyvale, all of which are located on the southwestern portion of the San Francisco Bay within Santa Clara County. Future service areas may include parts of the Los Altos and Los Altos Hills communities, and other areas bordering the present service area. A map of the current and potential future service areas approved in the initial permit and CEQA review is presented in Figure A-2.

The City of Sunnyvale, where the facility is located, has a population of 134,000. The cities of Mountain View and Palo Alto are located north of Sunnyvale as shown in Figure A-2. The area surrounding the SMaRT Station is zoned M-3 Industrial or P-F Public Facility (see Figure A-3). Refuse collection trucks operating in the City of Sunnyvale use surface streets and Highway 237 to approach and exit the facility. Trucks from the Cities of Palo Alto and Mountain View use Highways 237 and 101.

**E. Nature and Quantity of Wastes to be accepted**

**1. WASTE TYPES**

**a. General**

The SMaRT Station is designed specifically to handle municipal solid waste and source-separated recyclable materials. Municipal solid waste includes household, commercial and industrial wastes, and may contain any of the following categories of waste and recyclable materials:

**Paper**

- Cardboard
- Newspaper
- Mixed Paper
- White Paper

**Metals**

- Aluminum Cans
- Bi-metal containers
- Ferrous Metals and Tin Cans
- Non-Ferrous Metals
- White Goods (refrigerators, washing machines, etc.)
- Other Metals

**Plastics**

- HDPE Plastic
- PET Plastic
- Film Plastic
- Other Plastic

**Glass**

- Refillable Glass
- CRV Glass
- Other Recyclable Glass
- Other Non-Recyclable Glass

**Yard Waste and Other Organics**

- Yard Waste
- Food Waste
- Tires and Rubber
- Wood Waste
- Textiles and Leather
- Other Organics

**b. High Liquid Content Wastes (i.e. greater than 50%)**

This material is not accepted at the SMaRT Station.

**c. Designated Waste and Hazardous Waste**

These materials, as defined in the California Code of Regulations Title 27, are not accepted at the SMaRT Station.

**d. Other Wastes Requiring Special Handling**

These materials are not accepted at the SMaRT Station with minor exceptions: Household sharps, e.g. hypodermic needles from self-administered insulin and other treatments are **received in a special sharps container placed in the recycling drop-off area**. Freon and compressor oils are removed from refrigerators, freezers, and air conditioners to prevent their release to the atmosphere. Tires are pulled out for shipment to tire processors. Universal wastes requiring special handling but acceptable under permit conditions include used motor oil, antifreeze, computer and TV monitors, automotive batteries, rechargeable batteries, household batteries and fluorescent light bulbs and tubes.

It is the policy of the Sunnyvale Materials Recovery and Transfer Facility to exclude disposal of hypodermic needles, syringes and other "sharps" from medical, veterinary and commercial sources. This restriction includes disposal of "sharps containers", which enclose these materials, regardless of the method of sterilization performed.

**2. WASTE QUANTITIES**

**a. Maximum Daily Load Capacity**

The maximum capacity of the SMaRT Station is permitted at 1,500 tons of material each day. This includes spring and fall 'Clean-up' campaigns sponsored by the cities of Mountain View, Palo Alto, and Sunnyvale.

**b. Average Daily Throughput**

The facility receives, processes and transfers an average of 1,200 tons of material each weekday. The following conversion factors are used to calculate volume-based charges for public and self-hauled loads:

Waste Type	Conversion Factors (lbs/cubic yard)
Misc. Public	308
Demolition Debris	1000
Asphalt	1000
Concrete	2000
Dirt	2000

**c. *Unusual Peak Loadings***

The facility is permitted for a peak capacity of 1,500 tons of material each day. During peak loading periods, station spotters are instructed to move vehicles as quickly and as safely as possible, and all available tipping floor stalls and space are used. Under such circumstances, employees are asked to work overtime, if necessary, to process and transfer municipal solid waste.

**d. *Average Loading for the Next Five Years***

The average annual weekday loading expected to be handled at the SMaRT Station for the next five years is projected as follows:

Year	Average Annual Loading	Tons/Day
2002	343,200	1,300
2003	343,200	1,300
2004	343,200	1,300
2005	343,200	1,300
2006	343,200	1,300

The annual loading projected for the next five years is well within the permitted capacity of 1,500 tons per day or 547,500 tons per year.

These figures are a combination of the projected waste streams of all three cities that presently use the SMaRT Station, and do not include wastes from any areas not presently using SMaRT. The projections of Mountain View, Palo Alto, and Sunnyvale are incorporated into these figures. Each city independently calculated its own waste stream volumes in their Source Reduction and Recycling Element Reports.

**e. *Types and Numbers of Vehicles Entering the SMaRT Station***

A variety of different vehicle types use the SMaRT Station. They range from automobiles to 48' transfer trailers. The peak traffic loading for this facility is projected as listed below. Numbers in parentheses are recently observed daily peak traffic loads.

<b>Weekdays</b>	<b>Daily Totals</b>	<b>Peak</b>	<b>Hourly Rates</b>
Residential Packer	61		7
Commercial Packer	64	(51)	12
Roll-off or Drop Boxes	115	(39)	21
Public (including buy-back)	316	(44)	29
Curbside Collection	30	(14)	4
Transfer Trucks	55	(39)	4
Trucks Hauling Recovered Material	33	(15)	1
Employees	86	(102)	2**
<b>TOTAL</b>	<b>760</b>		

<b>Weekends (Saturdays, Sundays)</b>	<b>Daily Totals</b>	<b>Peak</b>	<b>Hourly Rates</b>
Residential Packer	0		0
Commercial Packer	9	(8)	2
Roll-off or Drop Boxes	0		0
Public (including buy-back)	458		58
Curbside Collection	0		0
Transfer Trucks	10	(5)	2
Trucks Hauling Recovered Material	2		1
Employees	40		2**
<b>TOTAL</b>	<b>519</b>		

<b>Extra Dump Weekend Events***</b>	<b>Daily Totals</b>	<b>Peak</b>	<b>Hourly Rates</b>
Residential Packer	0		0
Commercial Packer	9	(8)	2
Roll-off or Drop Boxes	5		0
Public (including buy-back)	1200		150
Curbside Collection	0		0
Transfer Trucks	55	(5)	2
Trucks Hauling Recovered Material	10		1
Employees	111		2
<b>TOTAL</b>	<b>1390</b>		

The projected peak loading rates are based on the permitted station capacity of 1,500 TPD.

\*\* Employee arrival and departure times are not at peak waste arrival times. In addition, their routing through the site does not impact the haul vehicle waiting times or queuing requirements.

\*\*\* Extra Dump Events are held on Saturdays and Sundays only, a total of eight (8) days per year. Four days in the spring (typically in April), and four days in the fall (typically in October). These events are held during the hours of 8:30 a.m. through 4:30 p.m.

## **II. REGULATORY REQUIREMENTS**

### **A. Permits and Approvals**

All conditions, criteria, and requirements established by various regulatory agencies having jurisdiction over the SMaRT Station are summarized in this section.

#### **1. U.S. ARMY CORPS OF ENGINEERS**

The SMaRT Station is situated adjacent to storm water drainage channels and wetlands associated with the San Francisco Bay. No drainage channels or wetlands were filled to construct the SMaRT Station, and no permits were required from the Army Corps of Engineers. There are no ongoing or anticipated activities at the SMaRT Station subject to the Army Corps of Engineers regulatory requirements

#### **2. UNITED STATES FISH AND WILDLIFE SERVICE**

The SMaRT Station is located in an area previously occupied by an asphalt and concrete recycling operation and next to the Sunnyvale landfill. Because of the nature of these prior uses, and the established absence of biological resources on the project site, disturbance to the site necessary to build the SMaRT Station was deemed not to have impacted native plant or animal life at the site. No permits from the U.S. Fish and Wildlife Service were required for this facility. None of the present or anticipated activities of the SMaRT Station are subject to USFWS regulations. Bird control methods used at SMaRT are passive and non-destructive, and do not require permits.

#### **3. FEDERAL AVIATION ADMINISTRATION**

The SMaRT Station is located approximately two miles east of the runways of Moffett Federal airfield (formerly Moffett Field Naval Air Station). FAA Part 77 Regulations apply to equipment, buildings, and vegetation that obstruct airspace. Section 77.28 of the regulations describes the imaginary surfaces extending around military airports in which an object would be considered an obstruction, including:

- Inner Horizontal Surface: a plane, oval in shape, at a height of 150 feet above the established airfield elevation. The plane is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents.
- Conical Surface: a surface extending from the periphery of the inner horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.
- Outer Horizontal Surface: a plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet.

At its highest point the SMaRT Station structure is approximately 45 feet high and is screened from the runways by the existing landfill surface which has two large hills. The South Hill is approximately 55 feet mean sea level (MSL) and the East Hill is 90 feet MSL. The station building does not intrude into any of the imaginary surfaces described above, and therefore no FAA review or permits were required for the project. There are no anticipated modifications to the SMaRT Station that would cause structures to intrude into the radar envelope.

#### **4. CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD**

##### Conformance with Assembly Bill 939

Under Chapter 6, Article 1 of AB 939, each city or county Source Reduction and Recycling Element (SRRE) must include an implementation schedule for diverting 50% of all solid waste from landfill or transformation facilities by January 1, 2000 through source reduction, recycling and composting activities.

The SMaRT Station is a critical component to meeting AB 939 diversion rates. This facility: 1) captures recyclable materials in the refuse loads received; 2) processes and prepares for market the recyclable materials (including yard waste) collected by the cities; 3) allows residents and businesses to drop off source-separated recyclables. The SMaRT Station was designed to divert a minimum of 15% of all incoming solid waste. Higher recovery levels are encouraged through financial incentives given to the station operator. The actual level of recycling achieved by the SMaRT Station fluctuates due to many factors. The Cities are not able to rely solely on the SMaRT Station to meet the 50% diversion goal established by AB 939. The Cities have developed, funded and operate recycling and other waste reduction efforts independent of the SMaRT Station to ensure that the AB 939 requirements are met. SMaRT Station operations are nonetheless a critical component to the ability of Mountain View, Palo Alto, and Sunnyvale to successfully meet AB 939 mandates.

##### State Minimum Standards for Solid Waste Handling and Disposal

In Chapter 3 of Title 14, California Code of Regulations, minimum standards for solid waste handling and disposal are established. The standards and regulations that apply most directly to the SMaRT Station cover the storage of wastes, design requirements, operator responsibility and standards for the operation of transfer stations.

State Minimum Standards are enforced by the CIWMB through the Local Enforcement Agency (LEA), the Santa Clara County Department of Environmental Health. The LEA is charged with conducting monthly inspections of SMaRT Station operations, using an inspection checklist following Title 14 standards. The SMaRT Station has generally managed to operate within the standards, only rarely incurring a violation.



Under Section 17403.9, the operator of a Large Volume Transfer/Processing Facility must file this Transfer/Processing Report (TPR) with the LEA to obtain, renew or revise a solid waste facility permit.

#### **5. CALIFORNIA AIR RESOURCES BOARD/BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

The California Air Resources Board establishes air quality and emission standards and rules for Air Quality Management Districts (AQMD's) based on EPA guidelines under the Clean Air Act. AQMD's are responsible for implementing local air quality controls and issuing permits for modifications for new sources of air pollution. The SMaRT Station falls under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD).

The permits issued by the BAAQMD are the Authority to Construct and Permit to Operate. The Authority to Construct Permit was obtained prior to start of construction in 1993. The Permit to Operate for the facility was issued approximately 60 days prior to start of operation and has been renewed annually. In addition, the City was issued a permit to operate the Emergency Standby Generator on April 10, 2002.

BAAQMD permits are attached as Appendix B.

#### **6. CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL - HAZARDOUS WASTE EXCLUSION PROGRAM**

The Hazardous Waste Exclusion Program (HWEP), which ensures that toxic or hazardous wastes are removed from the waste stream and are not transferred to the landfill, is included as Appendix C. This program consists of operator staff checking residential, commercial and self-haul loads at random, as well as inspecting waste as it is tipped and as it is processed for hazardous wastes. The cities of Mountain View, Palo Alto, and Sunnyvale all conduct household hazardous waste collection events and education programs for their residents to minimize improper disposal of hazardous wastes. The commercial and residential collection companies for the three cities, presently Foothill Disposal, PASCO, and Specialty Solid Waste and Recycling, also provide education and waste acceptability guidance to their customers. The County of Santa Clara also provides household hazardous waste collection event services to area residents, and has leased property from the City at a location separate from the SMaRT Station where a permanent household hazardous waste collection facility is located. The County holds a minimum of one collection event per month at this facility. A radiation detection system will be installed at the SMaRT Station scales to protect against inappropriate disposal of radioactive wastes at the SMaRT Station.

#### **7. STATE WATER RESOURCES CONTROL BOARD/REGIONAL WATER QUALITY CONTROL BOARD NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM PERMIT**

The State Water Resources Control Board (SWRCB) has jurisdiction over discharge of effluent and storm water to waters of the state. The SWRCB, through its Regional Water Quality Control Boards (RWQCBs), issue permits under the National Pollution Discharge Elimination System (NPDES) for the discharge of storm water and treated wastewater to natural waters. The City's NPDES permit for storm water is a General Industrial Permit, under which numerous facilities may file. There are no permitted or other non-storm water discharges from the SMaRT Station.

Storm water generated at the SMaRT Station is collected on-site and discharged to the storm water drainage canals located immediately west and north of the site. Rainfall impinging on the asphalt staging areas outside of the SMaRT Station drains to ten different drainage inlets, and then gravity drains through buried storm drain pipes into drainage canals. The drainage canals, which also receive storm water from upstream sources, flow to a large storm water pump station, known as Baylands #1, which conveys storm water over a levee into the Guadalupe Slough. Water is retained in the drainage canals until the pumps are turned on, with the result that the bulk of entrained sediment in storm water settles out in the drainage canals. The pump station can also be turned off to confine a spill affecting SMaRT Station storm drains.

Storm water draining from the SMaRT Station is filtered to remove metals, hydrocarbons, and oil and grease prior to discharge to the drainage canals. Two varieties of storm drain filters designed for this purpose have been installed in a redundant fashion to eliminate discharge of metals, oil, and grease to the drainage canals. SMaRT Station storm drains, including the buried pipes conveying storm water; are cleaned at least annually by the City of Sunnyvale.

The RWQCB has issued a storm water discharge permit to the County of Santa Clara that is county wide. The City of Sunnyvale is required to request coverage under this permit by preparing a Notice of Intent (NOI) to prepare a Storm water Management Plan. The NOI was completed. The Storm water Discharge Permit for the County and the City's request for coverage under this permit is included in Appendix D. In October 1992, the City prepared a Storm water Pollution Prevention Plan, which stipulated the nature and frequency of inspections and sampling events. Annually, the City of Sunnyvale must file a Storm water report with the SWRCB.

In 1997, the City filed a Notice of Termination with the SWRCB, which allowed the City to discontinue monitoring and reporting. The SWRCB approved the Notice of Termination on the basis that the closed landfill no longer required monitoring, and SMaRT Station operations are covered. In 1998, following reconsideration by the RWQCB based on field observations, the City decided to proceed with resuming storm water monitoring and reporting for SMaRT. Storm water samplers were installed in 1999, and samples have been collected. The Storm Water Pollution Prevention Plan, including Best Management Practices for the SMaRT Station, is currently under revision.

## **8. BAY CONSERVATION AND DEVELOPMENT COMMISSION**

Under the 1965 McAteer-Petris Act, the Bay Conservation and Development Commission (BCDC) is responsible for maintaining and carrying out the provisions of the San Francisco Bay Plan. The SMaRT Station site is immediately south of the Bay and associated levees, but lies outside of the jurisdiction of the BCDC. The SMaRT Station does not prevent access to the Bay and shoreline, change existing access patterns, or change the contour of the bay shoreline. Hence, a BCDC advisory action was not necessary to establish the SMaRT Station. None of the present or anticipated activities at the SMaRT Station prevent access to or impact the shoreline.

#### **9. CALIFORNIA DEPARTMENT OF FISH AND GAME**

Under Sections 1601-06 of the California Fish and Game Code, the California Department of Fish and Game (CDFG) has discretionary authority over a project if it requires a Streambed Alteration Agreement. Any project which "substantially diverts or obstructs the natural flow or substantially changes the bed, channel, or bank of any river, stream or lake, or uses any material from a streambed, or drills a well in the 100-year flood plain," may require a Streambed Alteration Agreement from the CDFG before it can begin construction.

The construction of the SMaRT Station did not affect any river, stream or lake and thus did not require a permit from CDFG. None of the present or anticipated future activities of the SMaRT Station require permits from CDFG.

#### **10. SANTA CLARA COUNTY**

##### Solid Waste Management Plan/Finding of Conformance

The regulatory conformance process determines whether a proposed facility is in conformance with a city's general plan and zoning ordinance, and the County Solid Waste Management Plan (CoSWMP), or County Integrated Waste Management Plan (CIWMP).

To be found in conformance with a city's general plan the site must have an appropriate designation as shown on the general plan map. The SMaRT Station site was designated as a "Future Solid Waste Transfer Station" in the Sunnyvale General Plan prior to its permitting and construction.

As described below, under City of Sunnyvale Zoning Ordinance, the SMaRT Station site was rezoned from Public Facilities District (P-F) to an industrial zoning, M-3 PD (General Industrial District, Planned Development), to allow for the need to operate machinery and temporarily store hazardous materials on-site.

##### Santa Clara County Environmental Health Services Department

Title 14 and Title 7.3 of the California Code of Regulations (now incorporated in Title 27) set forth minimum standards for handling and disposal of solid wastes as a means of promoting the health, safety, and welfare of citizens. Standards are to be enforced by the Local Enforcement Agencies, who enforce these codes on behalf of the California Integrated Waste Management Board. In the case of the SMaRT Station, the LEA is the Santa Clara County Environmental Health Services

Department. Prior to drafting or renewing a Solid Waste Facilities Permit (SWFP), the LEA must receive a completed application and this Transfer/Processing Report.

The LEA also enforces minimum standards of solid waste handling and conducts monthly inspections of the SMaRT Station.

## **11. CITY OF SAN JOSE**

### Kirby Canyon Landfill Solid Waste Facility Permit

The Kirby Canyon Sanitary Landfill received a Planned Development (PD) permit from the City of San Jose in 1984 (PD permit 84-5-55). The facility is currently allowed to receive an annual average of 2600 tons per day of waste, operating on a 7-day week basis. The PD permit issued by the City of San Jose for the landfill operations limits operating hours to between 12 a.m. and 5 p.m.

## **12. City of Sunnyvale**

### City of Sunnyvale Zoning Ordinance

The SMaRT Station site was rezoned from Public Facilities District (P-F) to an industrial zoning, M-3 PD (General Industrial District, Planned Development), to allow for the need to operate machinery and temporarily store hazardous materials on-site.

### City of Sunnyvale General Plan

The General Plan is composed of several sub-elements, each addressing a different topic. The sub-elements include Solid Waste, Land Use, Sanitary Sewer, and Seismic Safety/Safety. The Sunnyvale General Plan Map designates a transfer station in the northern portion of the City near the WPCP. Therefore, the project is allowable at the site.

### Permits required by the City of Sunnyvale

Permits that are required by the City of Sunnyvale to construct the SMaRT Station include a building and grading permit and an erosion control permit. Building Permit Design plans for the facility were reviewed and approved by the Planning Department, Department of Public Works, Building Department and the City's Public Safety Department prior to issuing a building permit. The City of Sunnyvale has received a Special Development Permit, issued by the City of Sunnyvale Planning Commission. Documentation is contained in Appendix F.

### Sunnyvale Water Pollution Control Plant

The SMaRT Station generates two liquid waste streams. Domestic wastewater is generated from employee shower and bathroom facilities located in three separate locations. Domestic wastewater is routinely discharged to the WPCP, and operations staff are trained not to use sinks and toilets for disposal of inappropriate liquid wastes. Tipping floor sump water is generated when trash is collected on rainy days. Sump water is permitted for discharge to the WPCP, however quality issues have precluded discharge in the past. Earlier tests showed quality problems indicating certain metals were present at concentrations greater than the Local Limits established by the WPCP. A pre-treatment system was installed to improve

the quality, however, the system has had mixed success. System modifications are being researched and a resumption of discharge is anticipated in the future. Until the system is modified to meet the requirements for discharge to the WPCP, the water will continue to be collected in the existing sump and removed for proper treatment/disposal off-site.

#### City of Sunnyvale Public Safety Department

The Sunnyvale Public Safety Department has issued hazardous Materials Storage Permits for all hazardous materials stored at the SMaRT Station site, including waste oil and diesel fuel. A 2,000-gallon diesel fuel tank and pump system was installed northeast of the maintenance shop for the fueling of all on-site operations vehicles and equipment. No waste hauling vehicles or transfer trucks are fueled at the SMaRT Station. The fuel tank was installed pursuant to the requirements of the City of Sunnyvale Municipal Code Title 20, the Uniform Fire Code Article 79, and the EPA practices for underground flammable liquid tanks.

A waste oil storage tank is located near the buy-back area and is used to store waste oils collected through the curbside program or delivered to the SMaRT Station by the general public. The storage tank for curbside collected waste oil is a 2,000-gallon underground tank designed with the same requirements stated for the diesel tank. A 500-gallon aboveground diesel fuel storage tank is located at the East End of the facility to provide fuel supply for an emergency standby generator.

Underground Storage Tank permit is contained in Appendix F.

#### **B. Design Requirements**

Design criteria and requirements established by statutes, regulations and local ordinances or by approval conditions imposed by agencies having jurisdiction over the SMaRT Station are summarized in this section.

##### **1. CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD**

###### *Title 14 California Code of Regulations - Minimum Standards for Solid Waste Handling and Disposal*

Title 14 specifies design requirements that must be met in order to obtain a solid waste facilities permit. These Sections include such regulations as:

Sections 17451-17453 The design of a new station shall utilize expert advice, as appropriate and shall be based on appropriate data regarding the service area, anticipated nature and quantity of wastes to be received, climatological factors, physical settings, adjacent land use, types and number of vehicles anticipated to enter the station, drainage control, the hours of operation and other pertinent information. The station shall be designed in such a manner to minimize the propagation of flies, rodents or other vectors and the creation of nuisances. Other pertinent matters related to the protection of public health shall be taken into consideration.

Sections 17481-17485 It is the responsibility of the operator to provide adequate station improvements including pertinent storage signage, security around the perimeter of the station, reasonably smooth road surfaces, and visual screening.

Sections 17491-17497 Adequate sanitary facilities, drinking water, communications facilities, lighting, and fire fighting equipment shall be provided for station personnel to ensure their safety. Also the station shall be designed, constructed and operated so that contact between users and solid waste is minimized.

## **2. CALIFORNIA AIR RESOURCES BOARD: BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

The construction of the SMaRT Station required the excavation of landfill material in the Sunnyvale landfill and the redesign of the landfill's gas control system. These activities have been completed.

The monitoring system for structures adjacent to the Sunnyvale Landfill includes the SMaRT Station. All adjacent structures are monitored continuously for the presence of explosive gases in the lower explosive range (LEL). The SMaRT Station design includes a migration cutoff trench on the east and south sides of the building, with sample ports for migration monitoring. Additionally, a passive methane ventilation system was installed beneath the facility to allow for the release of gases should they migrate beneath the structure. Vents are monitored quarterly for the presence of methane. Both the migration cutoff trench and the passive ventilation system can be modified to active ventilation systems if gases are detected.

If migrating gas is consistently found to be in the explosive range, the trench will be connected to the landfill gas collection system, where the collected gas will be flared or burned in engine generators at the nearby Power Generation Facility. A modification of the BAAQMD permit to operate the landfill gas system would be required to connect the migration cutoff trench to the landfill gas collection system.

## **3. STATE WATER RESOURCES CONTROL BOARD/REGIONAL WATER QUALITY CONTROL BOARD NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM PERMIT**

Storm water is collected on-site and discharged into the storm water drainage canals located immediately west and north of the site. The discharge is through drop inlets and buried drainpipe into drainage canals. The SMaRT Station has been added to a Notice of Intent previously sent to the RWQCB for coverage under the General Permit for the Sunnyvale Landfill.

## **4. CITY OF SUNNYVALE – GENERAL PLAN CONFORMANCE**

### City of Sunnyvale General Plan

The City of Sunnyvale's General Plan, is comprised of a number of sub-elements. Those elements whose goals and policies affect the SMaRT Station design are discussed below.

## *LAND USE SUB-ELEMENT*

The Land Use Sub-Element is part of the Community Development Element of the City's General Plan. The Sub-Element establishes patterns of land use for housing, commercial uses, industry and open space and it sets standards for density of population and intensity of development for each of the land uses.

Policy 2.1A.6. Protect and preserve the wetland areas in the Baylands that serve as either salt evaporation ponds or holding ponds for the wastewater treatment plant.

Conformance: The SMaRT Station site is located south of the salt evaporation ponds and east of the wastewater treatment plant's ponds. The project does not affect these ponds.

Policy 2.1D.1. Efforts shall be taken to minimize, where possible, the areas affected by the 100-year flood.

Conformance: The EIR concluded that the major surface drainage in the vicinity, the East and West Channels, have sufficient capacity to handle the worst-case scenario of a 100-year storm peaking at the same time as a 10-year tide. These channels are not expected to impact the site. Flooding could occur, however, if the levees north of the site were over topped by a tsunami or breached due to ground shaking from an earthquake. A tsunami is an earthquake induced sea wave and may result from local or distant seismic activity. In the south bay area, tsunami overtopping of levees is considered very unlikely, and the probability that the site would flood at all has been considered as very low.

In February 1998, the levee of the East Sunnyvale Channel overtopped during peak flow following a period of high rainfall intensity. The Bay Lands #1 pump station, which drains the canals north and west of the SMaRT Station, was not started for several hours due to mechanical and logistical problems. Even so, the SMaRT Station remained open, and trucks continued to arrive in spite of flooding along some access roads. Since this occurrence, the Santa Clara Valley Water District has performed construction on the levees that overtopped, raising them to elevations deemed to be protective. The City of Sunnyvale has also made improvements at the pump station to improve its performance and reliability.

Breaching of the levees due to ground shaking could result from earthquake induced landsliding of the levee sides, which would lower the levee sufficiently for high tide to flood the areas around them. It is unlikely, however, that even the lower portions of the SMaRT Station would flood. Flooding risk from both tsunami and breaching of levees could be reduced through regular maintenance of the levees, which is the responsibility of the Santa Clara Valley Water District.

## *SANITARY SEWER SUB-ELEMENT*

The Sanitary Sewer Sub-Element of the City's General Plan is a long range planning document that ensures that required sewerage facilities are provided consistent with

actual growth. This sub-element is part of the Environmental Management Element of the General Plan.

Policy 3.3A.1. The City shall provide for limitations on flow generated by new industries and enlargements of existing industries so that the total flow to the WPCP will not exceed the safe operating capacity of the plant, and under no circumstances is it to exceed 29.5 MGD.

Conformance: The SMaRT Station discharges wastewater to the WPCP or to a permitted off-site facility for treatment. Sources for wastewater include domestic usage and washdown water for the floor area and equipment. It is estimated that SMaRT Station waste handling operations generate approximately 500 gallons per week without washdown. Floor wash down is done infrequently.

Policy 3.3A.2: Insure that wastes discharged to the transportation (sewer) system can be treated with existing treatment processes of the WPCP.

Conformance: The wastewater discharge from the SMaRT Station to the WPCP will meet the WPCP's acceptance requirements upon completion of pretreatment system design changes. The initial design of the floor wastewater collection system anticipated that wastewater quality would be sufficient to allow direct discharge to the WPCP. Soon after operations commenced, it was discovered that floor wastewater exceeded WPCP local limits with respect to zinc and nickel. A 300-gallon batch pretreatment system, which involved adding a flocculating agent and filtering out the floc, was designed and installed, but with mixed success. Because the operator was unsuccessful in operating this system to achieve consistent compliance, the WPCP prohibited further discharge until modifications could be made to prevent further violations. The wastewater is now hauled to a permitted off-site facility. The pretreatment system design is being re-evaluated and may be modified to achieve consistent compliance. Wastewater from the floor of the maintenance shop is collected in a sump and passed through a grease trap to remove grease and oil. This wastewater is also hauled off-site presently, but may be treated and discharged to the sewer once modifications to the pretreatment system are completed.

#### *SEISMIC SAFETY/SAFETY SUB-ELEMENT*

The purpose of the Seismic Safety/Safety Sub-Element is to establish a balance between the community's need for safety with other needs such as housing, employment and transportation. This can be accomplished by incorporating knowledge of existing safety hazards into the planning and development review process. This sub-element contains an integrated set of goals, policies and actions to guide the community decision making process in a consistent manner.

Policy A.1: Evaluate and consider seismic hazards in developing land use policies.

Conformance: EMCON Consultants conducted a site specific geotechnical investigation, including test borings and CPT soundings, in August 1989. Based on these site investigations, EMCON developed a foundation report entitled: "Field



Investigations Conducted in Support of the Comprehensive Project Description." This report provides procedures and techniques necessary to construct the foundation. The foundation was constructed accordingly and the seismic hazard at this facility was minimized. Periodic safety inspections by the City of Sunnyvale Building Department review ongoing seismic safety issues related to operations and equipment.

Policy A.2: Take measures to protect life and property from the effects of a 1% (100-year) flood.

Conformance: Levees and channels surrounding the SMaRT Station site should be able to contain a 100-year flood event. A 1998 flood event, coupled with a brief failure of a key pumping station, did not inundate the SMaRT Station, and did not interrupt operations.

## **5. SUNNYVALE WATER POLLUTION CONTROL PLANT**

Wastewater generation from the SMaRT Station is estimated to be 500 gallons per day. In order to dispose of water generated on the tipping floor to the sanitary sewer system, the water must meet certain standards established by the WPCP. The WPCP's acceptance criteria are presented in Section 12.12.120 of the City of Sunnyvale's Sewer Ordinance. This section states that no facility shall discharge wastewater to the sewer system containing concentrations of pollutants in excess of their standards regarding limitations on wastewater strength. In addition to these limitations, no person shall discharge any wastewater:

- a) Having a temperature higher than 140 degrees F,
- b) containing more than 100 parts per million by weight of oil or grease of petroleum origin; containing more than 300 parts per million by weight of fat, oil or grease of animal or vegetable origin; or containing grease or oil or other substances that will solidify or become discernibly viscous at temperatures between 32 and 140 degrees F, or
- c) Having a pH lower than 6.0 or greater than 10.5.
- d) Having zinc in concentrations greater than 1.48 mg/L or concentrations of nickel greater than 0.25 mg/L [other compound specific limits also apply].

The floor water collection and disposal system includes a pretreatment system and sampling port. The pretreatment system was installed to reduce contaminant concentrations in the floor wastewater. Presently, wastewater collected in the sump is collected by a contract vacuum truck service for transport to an off-site permitted liquid waste treatment facility. Modifications to the wastewater pretreatment system to reduce contaminant loads may allow the resumption of discharge of treated floor sump wastewater to the sanitary sewer in the future. The vehicle maintenance building is equipped with an oil and grease trap in its floor sump.

## **6. CITY OF SUNNYVALE PUBLIC SAFETY DEPARTMENT**

Storage of hazardous material at the SMaRT Station site, such as waste oil or diesel fuel, requires a Hazardous Materials Storage Permit from the Sunnyvale Public Safety Department. A 2,000-gallon diesel fuel tank with an appropriate pump system was installed for the fueling of on-site vehicles only. No waste haul vehicles or transfer trucks are fueled at the SMaRT Station. The fuel tank is underground and installed per the requirements of the City of Sunnyvale Municipal Code Title 20, the Uniform Fire Code Article 79, and the EPA practices for underground flammable liquid tanks. Permit is located in Appendix F.

In addition, a waste oil storage tank is located near the buy-back area for waste oil collected from the curbside program, or delivered to the SMaRT Station by the general public. The storage tank for curbside collected waste oil is a 2,000-gallon underground tank designed per the requirements stated for the diesel tank.

### **C. Operational Requirements**

Conditions, criteria, and operational requirements established by statutes, regulations or local ordinances or by approval conditions imposed by agencies having jurisdiction over the SMaRT Station are summarized in this section.

#### **1. CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD**

##### *Title 14 California Code of Regulations - Minimum Standards for Solid Waste Handling and Disposal*

Title 14 specifies operating requirements that must be met in order to obtain a solid waste facilities permit. These Sections include such regulations as:

Section 17341 Requires that all equipment used for the collection and/or transport of solid waste be durable, easily cleaned, designed for safe handling, and constructed to prevent loss of wastes from the equipment during collection or transportation. In addition, all equipment is to be maintained in good condition and cleaned in a manner that prevents the propagation or attraction of flies, rodents, or other vectors and the creation of nuisances.

Sections 17414 each station operator is required to maintain records of weights or volumes handled in a manner and form approved by the local enforcement agency. Operators must also maintain records of fires, injury, property damage accidents, explosions, and incidents regarding hazardous wastes and other unusual occurrences. These records are to be open to inspection by the local enforcement agency and other regulatory and enforcement agencies and accessible for a period of three years.

Sections 17410.2, 17410.3 & 17418.2 It is the responsibility of the operator of the station to provide adequate numbers of qualified personnel to staff the station and to deal effectively and promptly with matters of operation, maintenance, environmental controls, records and emergencies. The station operator is also required to provide adequate supervision to ensure proper operation of the station in

compliance with all applicable laws, regulations, permit conditions and other requirements.

Section 17406.2 Unloading of solid wastes shall be confined to as small an area as practicable.

Section 17407.2 Facilities shall be cleaned daily of all loose materials and litter or on a schedule approved by the local enforcement agency. All boxes, bins, pits or other types of containers used shall be cleaned daily or on a schedule approved by the local enforcement agency.

Section 17410.1 Facilities shall remove solid wastes deposited at the site within 48 hours from time of receipt.

Sections 17406.2 & 17409.6 Compliance with specific provisions regarding adequacy of parking in a local land use approval (conditional use permit). Containers used to store garbage or other wet or liquid producing wastes shall in all cases be non-absorbent and leak-resistant.

Section 17409.3 Scavenging shall be prohibited. Salvaging activities shall be conducted in a planned and controlled manner and shall not interfere with other aspects of site operation. Salvaging activities shall be confined to specified, identified areas of the facility, and controlled to prevent health, safety or nuisance problems.

Sections 17409.3 & 17408.4 Storage of materials salvaged from solid wastes shall be ancillary to the activities of the operation or facility unless such storage is planned as an integral part of the operation. Materials salvaged on-site shall be stored away from other activity areas in specified, clearly identifiable areas as noted in the Transfer/Processing Report. They shall be arranged to minimize risk of fire, health and safety hazard, vector harborage, or other hazard or nuisance, and limited to a specified volume and/or duration as described in the Transfer/Processing Report. Drugs, cosmetics, foods, beverages, hazardous wastes, poisons, medical wastes, syringes, needles, pesticides and other materials capable of causing public health or safety problems shall not be salvaged at operations or facilities unless approved by the local health agency and the EA.

Sections 17408.5, 17407.4, 17410.4, 17407.3, 17408.1, 17408.3, 17418.3 (17408.5) Each operation and facility shall be conducted and maintained to prevent the creation of a nuisance. The operator shall take adequate measures to minimize the creation, emission, or accumulation of excessive dust and particulates, and prevent other safety hazards to the public caused by obscured visibility. The operator shall take adequate steps to control or prevent the propagation, harborage and attraction of flies, rodents, or other vectors, and animals, and to minimize bird attraction. Drainage at all operations and facilities shall be controlled to: minimize the creation of contact water; prevent to the greatest extent possible given existing weather conditions, the uncontrolled off-site migration of contact water; protect the integrity of roads and structures; protect the public health; and prevent safety

hazards and interference with operations. Litter at facilities shall be controlled, and routinely collected to prevent safety hazards, nuisances or similar problems and off-site migration to the greatest extent possible given existing weather conditions. Noise shall be controlled to prevent health hazards and to prevent nuisance to nearby residents. Traffic flow through the facility shall be controlled to prevent: interference with or creation of a safety hazard on adjacent public streets or roads, on-site safety hazards, and interference with operations.

Sections 17408.6 All aspects of the facility shall be maintained in a state of good repair. The operator shall implement a preventative maintenance program to monitor and promptly repair or correct deteriorated or defective conditions.

Sections 17407.1, 17407.5 & 17408.2 An operation or facility shall not intentionally accept or store hazardous wastes, including batteries, oil, paint, and special wastes, unless it has been approved to handle the particular waste by the appropriate regulatory agencies. At facilities where unauthorized hazardous wastes are discovered, control measures as are necessary to protect public health, safety and the environment. Medical waste, unless treated and deemed to be solid waste, shall not be accepted at an operation or facility, unless approved by the appropriate regulatory agency. If burning wastes are received at an operation or facility, they shall be separated from other wastes and deposited in a safe area, spread, and extinguished.

## **2. CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY**

### Hazardous Waste Exclusion Program

Implementation of the Hazardous Waste Exclusion Program (HWEP) ensures that toxic or hazardous wastes are removed from the waste stream and do not reach the landfill. Exclusion activities include questioning self-haul customers of their load contents, inspecting self-haul and commercial loads, including picking apart packer truck loads at random, public education, and removal of hazardous wastes that could not be returned to generators. A copy of the HWEP is included in Appendix C.

## **3. CITY OF SUNNYVALE**

### City of Sunnyvale Zoning Ordinance

The Zoning ordinance regulates operations so as to reduce the impacts on surrounding land uses. Section 19.24.010, Operations Upon Land - Nuisance Prohibited states: "Operations upon land shall be conducted in such as manner as to promote and protect the public health, safety, convenience and general welfare of the inhabitants of the city." Activities specifically regulated include noise, types of fuels permitted, night lighting, ground vibration, and open storage of materials. The SMaRT Station design and operation complies with these standards.

### **III. Operations Plan**

#### **A. DETAILED SITE PLAN**

##### **1. TIPPING AREAS**

Two areas at the southeast and northeast end of the main SMaRT Station building have been designated for unloading franchise collection vehicles, (Figure A-4). Six tipping stalls are provided for unloading residential packer trucks; 12 stalls are provided for loads generated by commercial and industrial sources. Vehicles using these stalls are front-loader packer trucks and debris box carriers.

The public is directed to place refuse in an area separate from that used by the commercial vehicles. Ten discharge stalls are provided at the southeast end of the SMaRT Station building. As the character and number of incoming loads vary, any of the ten stalls can be assigned for tipping. Visual indicators, such as portable pylons, are sometimes used to mark the tipping areas and segregate public haul from commercial and franchise haul vehicles. Traffic spotters typically direct commercial and public haul vehicles.

During the weekend, public vehicles may also be directed to the commercial tipping areas, as there is little commercial traffic on weekends. This can be used to alleviate traffic back ups during peak periods for public drop-off on weekends.

An AB 2020 California Redemption Value (CRV) container buy-back center is sited on the southwest edge of the yard, separate from the main processing building on the south side of the facility by traffic patterns and curbs. Beverage containers qualifying under the AB 2020 redemption program are also redeemed at the buy-back center 7 days per week. A public drop-off facility for source-separated recyclables such as corrugated cardboard, aluminum, paper, glass, plastics, and other recyclables is also located in this area. Public drop-off materials are stored in containers. Refrigerators, freezers and air conditioning units are staged outside the building near the northwest tipping floor area for Freon and compressor oil evacuation prior to recycling.

##### **2. STORAGE AREAS**

An area of approximately 3,000 sf at the north west corner of the building is designated for storage and loadout of baled materials (Figure A-4). Material from this area is loaded onto semi-trailers for transport to market. A loading dock for the semi-trailers is located on the north side of the building. The storage areas for material awaiting transfer vehicles is approximately 20,000 sf, and the area for